

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

Rejection of claims 32, 33, 46, 47, 50-52, 54, 56-59, and 61-65 under 35 U.S.C. § 103(a)

Claims 32, 33, 46, 47, 50-52, 54, 56-59, and 61-65 presently stand rejected as being unpatentable over McKnight (U.S. 6,304,239). This rejection is respectfully traversed for at least the following reasons.

It is respectfully submitted that McKnight fails to disclose or suggest "a first switch element located between the first memory element and the first pixel electrode for controlling charge transfer from the first memory element through the charge transfer path to the first pixel electrode," as set forth in claim 32.

While the Examiner asserts that such a first switch element is shown by McKnight's Fig. 6C as item 674 (referring also to col. 12, lines 39-52 of McKnight), Applicant respectfully disagrees.

As can be seen in particular in McKnight's Fig. 6C, charge stored on the memory element (673) can be transmitted *directly* to the pixel electrode (671), without being blocked by a switch. The control transistor (674) is used to selectively load the pixel electrode (see *McKnight*; col. 12 lines 45-46), as is conventionally known.

However, this is different from the present invention, where a switch element is located between the memory element and the first pixel electrode, as for instance illustrated in Fig. 13 of the present application. According to the present invention, the presence of this switch element (M2) allows lossless transfer of data as explained on page 18 line 26 to page 19 line 31 of the present application as filed.

Furthermore, although McKnight discloses applying a dynamically changing voltage to the common counter-electrode, it is respectfully submitted that McKnight does not disclose or suggest that the dynamically changing voltage applied to the common

counter-electrode changes between minus the voltage of the pixel elements and the sum of the voltage of the pixel elements and the modulation voltage of these pixel elements, so that the pixel data value is a signal comprised between zero volts and a data voltage value, as set forth in claim 32.

Instead, McKnight discloses, with respect to driving of the common electrode, that the common electrode may be driven so as to change between  $V_{min}$  and  $V_{max}$  whereby  $V_{min}$  and  $V_{max}$  respectively define the voltage range to which any pixel electrode of the display substrate can be driven to (see *McKnight*; col. 25, lines 19-21).

It is respectfully submitted that none of the cited documents disclose dynamically changing the voltage to a common counter-electrode as in the present invention.

For at least these reasons, it is respectfully submitted that McKnight fails to disclose or suggest each and every element set forth in claim 32.

Moreover, there is no teaching or suggestion, or any other indication, in any of the cited prior art documents to apply a dynamically changing voltage to the common electrode, let alone a reason for a person skilled in the art to do so.

Nevertheless, such changing as set out in the present patent application has the advantage that the dynamically changing voltage at the counter-electrode absorbs the threshold voltage of the pixel element, and the required driving voltage range can be reduced to the useful voltage swing  $V_m$  (see application page 4 lines 25-26, page 8 lines 4-5, page 13 lines 2-3, page 14 lines 1-9).

Therefore, it is respectfully submitted that McKnight fails to form a prima facie case of obviousness of claim 32, and therefore claim 32, along with claims 33-56 which depend from claim 32, are allowable over the cited references.

Further, Applicant notes that claim 57 is an independent method claim, which is allowable for reasons similar to those discussed above for claim 32 and in with respect to applying the dynamically changing voltage to the common counter-electrode as recited claim 57. Therefore, it is respectfully submitted that claim 57, along with claims 58-66

which depend from claim 57, are allowable over the cited references. Accordingly, withdrawal of this rejection is requested.

Rejection of claims 34, 35, 44, 45, and 60 under 35 U.S.C. § 103(a)

Claims 34, 35, 44, 45, and 60 presently stand rejected as being unpatentable over McKnight in view of Willis et al. (U.S. 7,038,671). This rejection is respectfully traversed for at least the following reasons.

It is respectfully submitted that Willis fails to disclose or suggest fails to disclose or suggest a first switch element located between a first memory element and a first pixel electrode for controlling charge transfer from the first memory element through the charge transfer path to the first pixel electrode. Willis also fails to disclose or suggest dynamically changing the voltage to a common counter-electrode as in the present invention.

Therefore, Willis fails to supplement the deficiencies of McKnight discussed above, and the combination of these references fails to form a prima facie case of obviousness of either of claims 32 and 57, for the reasons set forth above. Accordingly, claims 34, 35, 44, and 45, which depend from claim 32, and claim 60, which depends from claim 57, are allowable over the cited references at least due to their dependency, and withdrawal of the rejection is requested.

Rejection of claims 36 and 37 under 35 U.S.C. § 103(a)

Claims 36 and 37 presently stand rejected as being unpatentable over McKnight in view of Kusumoto et al. (U.S. 5,402,128). This rejection is respectfully traversed for at least the following reasons.

It is respectfully submitted that Kusumoto fails to disclose or suggest fails to disclose or suggest a first switch element located between a first memory element and a first pixel electrode for controlling charge transfer from the first memory element through the charge transfer path to the first pixel electrode. Kusumoto also fails to disclose or

suggest dynamically changing the voltage to a common counter-electrode as in the present invention.

Therefore, Kusumoto fails to supplement the deficiencies of McKnight discussed above, and the combination of these references fails to form a prima facie case of obviousness of either of claims 32 for the reasons set forth above. Accordingly, claims 36 and 37, which depend from claim 32, are allowable over the cited references at least due to their dependency, and withdrawal of the rejection is requested.

Conclusion

In view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 32-66 be allowed and the application be passed to issue.


If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

Respectfully submitted,

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